

Mariano Lerma, #14

TALL XIV

Session 2 – Lubbock/Amarillo, TX

October 14-17, 2014

Day 1 – October 14, 2014:

Our day started with an early morning. Like most of my classmates I had arrived Monday evening to attend the awesome BBQ meal provided by Steven Akers. In case you're wondering, there is no question why Steven is a salesman. He really knows how to wow folks and make them feel good. After only one session were glad to see other and were looking forward to another fun albeit long week.

PYCO Oil Mill Tour – Ronnie Gilbert VP Oil Trading/Packaged Oil

Once we had a little breakfast, wiped the sleep from our eyes and had a quick bus ride over to the PYCO Oil Mill. We were greeted by Shelley Heinrich (TALL XII), who helped coordinate our session. Shelley welcomed us to PYCO and we had the opportunity to meet Ronnie Gilbert. Mr. Gilbert provided us with so much more insight in the Cottonseed Milling than I think most of us could have imagined. I have done some work with a Cottonseed Mill in the past but I assumed that the only things that come from the seed were Oil, Cottonseed Meal or Cotton Seed cubes, not so. Mr. Gilbert told us that PYCO Industries is the largest cottonseed cooperative serving the southern United States with over 60 Member Gins and on a good year they will receive over 1 million tons of seed to mill.

PYCO produces and supplies four high quality products to consumers in addition to Cottonseed Oil: Whole Cottonseed, Meal, Hulls, and Linters. Cottonseed oil is the main product produced at PYCO. They are a major supplier of oil to the snack food industry as well as an important participant in the food service industry (because cottonseed oil allows food to retain their original flavor). The next products marketed by PYCO are cottonseeds and cottonseed meals, because PYCO is located in the middle of one of the largest cotton producing areas in the world and in close proximity to major beef and dairy production areas. The complete fiber and protein balance in whole cottonseed makes it an excellent feed product for both dairy and beef cattle. The cottonseed meal produced at PYCO Industries is a very high quality 41% protein meal. Next PYCO produces cottonseed hulls, which can be used for livestock feeds as well. However, I found it interesting that they hulls are also marketed toward energy exploration. Here the hulls are used in Oil Well Drilling Mud. Lastly, PYCO markets linters (fine, silky fibers which adhere to the seeds) for an array of products that are sold overseas. Included in these products are superior quality papers (banknotes), mattresses, upholstery padding, yarns, and medical grade cotton products. Other linters contributes to products including solid rocket propellants, gunpowder, food casings, ice cream, plastics, and high quality films. Other items of interest that were discussed were the fact that PYCO has 10 windmills that supply energy to the

grid (which provides credit to PYCO's energy usage). Finally PYCO has its short line track which is 15 miles long, this was obtained after PYCO filed suit against the owner.

Tour Heinrich Brothers Drip Irrigation cotton field and hear from Eric Best (Monsanto) – Burt Heinrich and Eric Best

I was interested in learning more about “drip irrigation”. I have become more fascinated with it ever since the drought began around 2010-2011. I see why implementing such a practice in this region is necessary, since 45% of cotton in the Plains is irrigated cotton. According to Rusty Houston and Aaron Stone with Diversified Sub-Surface Irrigation, Inc. (DSI, Inc.) it takes approximately 3-4 yrs. to see a return on investment after the drip system is installed. I also found it interesting that Mr. Heinrich stated that he still waters as many days and for the same amount of time but it is not wasted, he stated that he waters about 8hrs a day and puts out about 4 gal/ac.

Mr. Best talked to us about some of the new research that is being conducted by Monsanto for cotton production. He stated that they were working on a breeding program to highlight the drought tolerance traits. He also talked about how they are working on improving some of the chemistry to combat Palmer amaranth (pigweed) which has developed some resistance to herbicides. Finally, Mr. Best also talked about different research that are conducting to control insects, specifically focusing on protection from bugs, such as bollworm, armyworm and lygus.

Lubbock Cotton Growers Co-op Gin Tour – Jerry Butman

After visiting a cotton field it's only fitting that we visit spend some time in a gin. Which meant that we were going to tour the Lubbock Cotton Growers Co-op Gin. This co-op gin was established in 1939. In 2009 they rebuilt a state-of-the-art high capacity facility. The gin is now capable of ginning around 100 bales/hr and runs about 14 hr days. This is really important because farmers don't want to wait until the spring to have cotton ginned. In 2010, there was 82,000 bales ginned. Mr. Butman stated that the current 5 yr average is around 53,000 bales/yr but with the increasing yields due to drip irrigation, better seed varieties/technologies production could be at capacity in the next several decades.

Llano Estacado Winery Tour – Mike Laughlin

Wine tour and tasting at 10 am? Yes please. With cotton on the brain and more cotton to come, this was a very interesting and nice change of pace. I could not believe how far the Llano Estacado Winery has come from its humble roots in the basement of a Texas Tech building to a leader in the wine industry. They winery bottles around 20 different wines. It was interesting to note that white and red wines absorb the oak flavors of the barrel at different rates, thus requiring different size barrels. I have never toured a winery and found the entire process very interesting.

Tour Fiber & Biopolymer Research Institute – Dr. Dean Ethridge

I don't think I knew what to expect when we pulled up to the research institute, according to Dr. Ethridge the main purpose is for advancing the knowledge of growing and maturation of different strains of cotton. Partners like Bayer Crop Sciences make this type of research possible. Testing yarn property tests such as measuring thickness, thin spots, break strength help to standardize the product. I learned that the industry standards for testing fibers require the temperature to be 72 F and 65% humidity. Unfortunately we were running slightly behind schedule so we had were not able to get the full tour but Dr. Ethridge was so enthusiastic and had such a passion for this research. I am glad that we had the opportunity to meet Dr. Ethridge and learn about all the research they conduct.

Lunch at Texas Tech University – Animal & Food Science Building – Dr. Michael Orth

We had only been going for half a day and were definitely ready to sit down and enjoy a nice meal. Our lunch had been provided by COWamongous (which is located in the building (we will get into that later.) Dr. Michael Orth welcomed us to the university and provided us with some background regarding the department. Dr. Orth told us that the main studies in the department focus on Food Safety, Meat Science, and Animal Health and Well Being. Their main mission within the department revolves around three focal points: Develop Solutions – which involves a focus on research and increasing faculty to help get to the solutions, Empowering Students – by providing an assortment of opportunities such as Judging Teams (Meat, Livestock, Horse, etc.), Equine Teams (i.e. Ranch Horse Team) students are able to develop leadership, team work, responsibility which helps prepare them for life after graduation, and finally Serving Society – conducting research and working with other countries to increase food safety helps benefit everyone, additionally, the university has a Therapeutic Riding Facility which provides the highest level of equine-assisted therapy to people with disabilities.

Overview of the South Plains Agriculture – Mark Brown (Lubbock County CEA)

Mr. Brown provided a great look at production Ag in the area, the South Plains which is located is responsible for 16.3% of Ag production for the state of Texas. Mr. Brown told us that it is projected that production value of all ag related activities should be over \$4 Billion which is approaching the what the area recorded prior to the drought in 2010. The two greatest commodities in the region are Fed Cattle and Cotton making up 53.2% of all commodities. Finally, Mr. Brown stated that the future of the South Plains Agriculture will surely be made up of Food, Feed, Fiber, and Fuel.

Commodity Organization Presentations:***Plains Cotton Growers – Steve Verett***

Organized in 1956 by cotton producers across the Texas plains Plains Cotton Growers (PCG) now represents producers in 41 counties. PCG is a non-profit organization that focuses its efforts on legislation, research, promotion, and service. In addition to its advocacy roles in

government, they also conduct a pretty aggressive communication campaign with producers with everything from email newsletters, social media, to radio.

Texas Corn Producers Board – Angie Martin

Texas Corn Producers serves the state's corn farmers through two organizations, the Texas Corn Producers Board and Corn Producers Association of Texas (CPAT). The board oversees and allocates funds from the voluntary one cent per bushel checkoff program toward research, education, and promotion to further the industry in Texas and to create better marketing opportunities for Texas farmers. While, CPAT is the advocacy arm of on both the state level and national levels.

National Sorghum Producers – Tim Lust

According to Mr. Lust, there are made up of two organizations supporting one industry. There is the United Sorghum Checkoff Program (USCP) and Nation Sorghum Producers (NSP). The USCP focuses on research, promotion, and market development. Also, they are not allowed to lobby. While the NSP is responsible for legislative, regulatory and advocacy for the industry. Some new areas of interest for sorghum include biofuels and getting sorghum on the shelf. Right now food industry is only responsible for 2% of the entire sorghum market.

Texas Peanut Producers Board – Shelly Nutt

According to Ms. Nutt, there are approximately 120,000 acres of peanuts in the state. Texas is the only state to grow all 4 varieties of peanuts. The checkoff program consists of \$2 per ton and is the oldest checkoff program in the state. TPPB is headquartered in Lubbock and is responsible for Texas peanut research, market development, education and promotion.

Tour Animal Science Building – “Research in Animal Agriculture” – Dr. Leslie D Thompson

Dr. Thompson was our tour guide and she started our tour by providing a background our where our lunch came from “COWamongous”. It was established in 2005 and the result of a partnership between TTU and Daniel Brackeen (TTU alum and founder of TCBY). In addition to selling freshly prepared food, there is also a retail store that sells meat and dairy products processed in the building. Dr. Thompson also took us on a behind the scenes look at several of the research laboratories and told us that much of the USDA National Nutrient Database data comes from research conducted right in this building. That was quite impressive. She also told us that one lab is working on animal behavioral studies trying to identify pheromones that can be used in sprays for controlling animals. Lastly, we made our way down to the stable of “Fearless Champion”. It was nice to see.

Tour USDA – Lubbock Cotton Classing Office – Gerald Talkmitt

When you in Lubbock how do you finish off the day but with “cotton talk”. We toured the Classing office and noticed that most of the tools used at the Fiber and Biopolymer Research Institute for instance the HVI machines testing length and strength measurements. They also

run samples to check on color and trash which will eventually give the classification of the cotton. We were also reminded of the industry standards regarding the atmospheric testing temperature and relative humidity which Mr. Talkmitt stated is monitored very carefully. Mr. Talkmitt told us that in the past "Classers" used to call color, trash, strength but now everything is done by machines. It was a nice lesson for those of us who have ties to cotton, in addition to a good overview for everyone else.

TALL XIV Reception – Bayer Museum of Agriculture

Our Lubbock social/reception was hosted at the Bayer Museum of Agriculture. This was a real treat, the Museum had a lot of cool exhibits from antique tractors to the history of ginning as well as a hologram. This was just a being to how entertaining the evening was going to be. We were able to visit with multiple TALL alumnus as well as all the sponsors and Texas Tech Faculty. I enjoyed visiting with Dan and Linda Taylor and was happy to be present when they received the recognition/award for all the effort that they have put into agriculture on the South Plains. They truly deserve this award. Finally, it was time for dinner which was hosted by Josh Underwood. Josh and I had an interesting talk about how are paths led us to where we are. I enjoyed the company and dinner as well. I look forward to talking with Josh in the future.

Day 2 – October 15, 2014:

Diamond Ethanol Plant – Chuck Fryar, Matt Durler, and Scott Johnson

Getting to tour an ethanol plant is pretty exciting, ethanol in itself is an interesting product. Anytime we can find more markets for our producers is good and being able to provide more energy/fuel for our country is also a good thing. The plant has about 39 employees and began production in the later part of 2012. According to Scott Johnson, the entire process takes about 60 hrs and the alcohol that is produced is approximately 199 proof. They have 4 tanks for fermenting (535,000 gallons each). After, fermenting they filter off the remaining feed stuff and market the distillers grain locally for livestock feed. This plant uses grain sorghum as the only source of grain. I am glad that we got to take a closer look at the plant, it gave me a new perspective of what new fuels can be available to us. And it is very important since ethanol has been mandated to be used in our fuel.

Tour Kettner Pumpkins – Kelly Kettner

I am sure some of the folks were excited to see some other commodities in this area besides cotton. It was kind of Mr. Kettner (TALL XIII) to share his operation with us. Mr. Kettner said that he farms a total of 4000 acres but only 120 are dedicated to pumpkins. This is due in part to the nature of the crop. Pumpkins is a very manual labor intense crop and requires a lot of attention to detail (as if other crops didn't). Mr. Kettner said that he wouldn't necessarily say they require more water it is just the times is so important. He said that he usually expects to yield anywhere from 30,000 – 50,000 lbs/acre depending on the variety. He markets his jack-o-lantern varieties to Wal-Mart, along with road side vendors. According to Mr. Kettner, his two

major issues are disease (he spends about \$300/acre on fungicide) and labor (he is lucky to hire about 30 employees who are local, but he has said that his Spanish has had to get better).

Tour Ag Aviation – Fred Locker

According to Mr. Locker he is basically a chemical dealer who provides application services. I think everyone in the room would disagree with that, but we could see his logic. He stated that most of the spraying (90%) is done within a 35 mile radius of his strip, however they do have some customers around the Amarillo area. Mr. Locker said that they have had to evolve over the years to move beyond just selling herbicides to now working with other consultants that includes having to have knowledge in pest management, fertilizers, and overall determining what works best with various plant varieties. The biggest issue that he sees in the future will be how more regulations will be implemented.

Lunch and Tour Stonegate Farms – Joe Osterkamp (TALL XIII)

Lunch at Stonegate Farms was a nice touch, and it was very nice of Joe and his family to open up their home to us, Joe had just completed TALL so he knew we needed a meal or two. Joe explained that Stonegate had been in operation in Muleshoe for about 10 years. Prior to the Muleshoe operation Joe and his entire family had been running a dairy in California. Joe stated that due to the massive amount of regulations they finally had to move the operation. I am impressed with taking on something like that, it couldn't have been an easy decision. Joe said that they currently milk 3,000 cows twice daily. He stated that currently finding labor is always a big issue.

High Plains Underground Water District – Jason Coleman

It was nice to get some information about how water districts were formed and what the basic missions are, for instance the HPWD's mission is to conserve, preserve, protect, prevent waste, and recharge aquifers of the district. We also learned some of the provisions adopted this year. Beginning January 2015, the allowable production rate (APR) per contiguous acre will be 1.5 acre-feet per year. A well operator or owner may reserve all or part of their APR by adhering to prescribed application and reporting requirements.

Bamert Seeds – Nick Bamert

Bamert Seeds has been producing native seeds since 1951. In 1981, Nick Bamert graduated from A&M and returned home to continue producing native seeds. Over 95% of the seeds that they sell are produced on their own land. Bamert Seeds sells a lot of seed for soil reclamation and restoration. A lot of the seed is sold to the oil and gas industry, mining, and for highways. Finally, with the passage of the Farm Bill, many more conservation programs allow for utilization of native grasses, this has provided another opportunity for seed sales.

Cargill Cattle Feeders – Meredith McGowan and Nathan Reeves

Meredith and Nathan gave us a tour of the feedlot, according to them the optimum capacity is 57,500 head of cattle. Typically the make up of the feed yard is about 50/50 steers/heifers but with the decrease in cattle it has shifted to 70/30, because more heifers are being kept. Cargill owns all the cattle and when they have reached the target weight they are shipped to the Cargill plant in Friona, TX. Usually, it takes about 120 days to hit the target weight. The cattle that they focus on with Cargill is mainly Angus and Charolais. The main issue that they focus on is safety, that is very important when you are handling this many animals and you take into account the pen riders, both horse and man.

Sweet Bran – Matt Meland

Sweet Bran is a division of Cargill and is a consistently high quality corn gluten feed product, made from ingredients of the wet corn milling process. Sweet Bran feed offers consistent dry matter content and nutrient composition. Its unique nutrient profile provides improved palatability; less separation of ration ingredients. They showed us the testing that is done on each batch to ensure quality and consistency, Ethan told us that they will not ship a load even if it is just a bit off. I, along with the rest of the class, was extremely impressed by the way the off loaded the rail cars. They rail cars don't have hoppers or belly dumps the entire car rotates and dumps out without ever being disconnected from the other cars. I know amazing. They told us that they are now working on a new ration called Ramp, which is right to the bunk and ready to feed.

Dinner Sponsored by Wilber-Ellis***The Impact of Ag on Deaf Smith County, and the Impact of Deaf Smith County Ag on the State of Texas – Rick Aukerman (Deaf Smith County CEA)***

According to Mr. Aukerman, the value of agriculture on Deaf Smith County exceeds \$702 million accounting for cash receipts, ag payroll and government payments. Deaf Smith ranks number one in fed-beef production in the state as well as the nation for all counties. Deaf Smith is also number 4 in the state for wheat production and dairy production.

Day 3 – July 10, 2014***Prime One – Ty Lawrence and Don Topliff***

We had been going strong for two days straight and Dr. Jim was not slowing down. Dr. Lawrence talked about some of the research that he has been working on, regarding cloning. They stated that they had been conducting regular work looking at carcass and they noticed more than one Yield Grade 1/Prime Quality graded carcasses. It was then that they decided to try to clone an animal using harvested DNA. The first animal cloned was a bull (albeit the original was a steer) who's make up was 86% angus and 12% zebu, his has been named Alpha. They now have several lines of clones, they have several heifers (100% Wagyu Japanese Black) that have been breed to Alpha. They are hoping to develop a new breed, they hypothesis is that they probably won't have a breed that is homogeneous Prime One but that they will be

able to shift the spectrum of what these cattle will grade. They are currently testing Alpha's semen on commercial cattle vs 2 Angus bulls, to see how the calves will grade.

Representative – Four Price (Texas House of Representatives – District 87)

Representative Price talked about how water affects all of us and also the current and future policies that the state is working on. According to Representative Price, the timber industry relies so heavily on water that if you lined up all the trees that were affected by the drought (one way or another) you'd end up with 3 round trips between Austin and NYC. He mentioned some things that are being implemented as a result of House Bill 4/Proposition 6. He stated they are working on developing projects that include water reuse, aquifer recharging, more storage, and desalination of both brackish waters and gulf waters. Lastly, he reminded us that we need to pay attention to what the federal government is working on (EPA clean water act – navigable waters rule). He stated that they work well with their national counter parts but they still need to be vigilant.

Brandon Gunn – Texas Pork Producers Association

The Texas Pork Producers Association is made up of 700+ members. The TPPA has 4 major focus areas: Promotion & Consumer Education, Producer Programs, Youth Programs, and Public Policy. Brandon told us that compared to other pork producing states we are unique because we juggle between the show pig and commercial pig industries. In the commercial pig industry Texas ranks 14 producing approximately 2 million pigs/yr on less than 10 commercial farms. The show pig industry is also extremely important to the state, with more than 25,000 pigs validated for major state livestock shows. The show pig industry is very important to pork production because it fosters the relationship between youth and animal husbandry. It is also important in developing character, work ethic, responsibilities, knowledge, and may result in future opportunities in the commercial swine industry.

Texas/Poland Young Farmer Exchange Program – Shandi Leavitt

Shandi talked about her participation in the Texas Poland Young Farmer Exchange Program, in just her little time that she spent with us, it is clear why she was chosen to represent our state. Shandi told that her stay in Poland included helping in cherry harvesting and canola in addition to learning how Poland's Ag industry differs from our own. Shandi told us what a great opportunity it was to be able to share our practices with someone in a foreign country.

Timber Creek Veterinary Clinic/ViaGen – Gregg Veneklasen

Meeting Dr. Veneklasen was truly a great opportunity, I know what that everyone we meet loves their job, he told us that he can't retire because he has way too much work to do and he is just scratching the surface. Dr. Veneklasen works with Viagen, Trans Ova, and other private companies that assist in the research that he conducts. He noted that he worked with WTAMU on the Prime One project and has also worked with many in the rodeo industry cloning rough stock horses. Dr. Veneklasen noted that one of the biggest issues/factors affecting him is the

government bureaucracy. He told us that many are afraid to make a decision because they are just too worried about what the implications may be. He told us of a project (research conducted by Aqua Bounty) that has been waiting 20 years to be approved by the FDA. I'm hoping that he will not have to face those kinds of setbacks, because I see that if he is given the opportunity he will be able to develop animals that will reach the target weights and be fed more efficiently, all while reducing our carbon footprint. That sounds like a win-win for all of us on earth.

Xcel Energy – David Chapman

I was interested to learn that Texas is actually divided between all three parts of the electrical grid, the Western, Eastern and ERCOT (the Energy Reliability Council of Texas). They told us that most of the energy produced at this location is used in the eastern grid. They also told us that this plant and the neighboring plant use about 15 million gallons of recycled water (treated sewage effluent) a day from the City of Amarillo for cooling – saving fresh water for other purposes. The plants' "waste" waters are used to irrigate grasses, seed crops, and forage on nearby farmland. This is good since we all know how big an issue fresh water is for our state.

High Plains Food Bank – Broc Carter

I enjoyed getting to be on the tour with my classmates. Volunteering at the North Texas Food Bank has given me a lot of experience with what goes on around me but I was interested to see how they operate in the High Plains. They noted that there are several clients that they work with who provide food to areas that have no grocery stores around. Mr. Carter told us that they go through about 7 million pounds of food a year, of that 1/3 is produce. He also told us that they receive financial donations and that 94 cents of every dollar goes into food distribution. They also have small community gardens that they work to educate on how to grow healthy food. Lastly they showed us the Kid's Café, where they provide meals to children after school and also use it to teach healthy eating habits.

Round Table Discussion – Senator John Cornyn

There were many commodity groups that were there to have their voices heard by Senator Cornyn. I am glad that no one knew who I was (aside for the Insurance Company present), it turned out that our agency was having a little trouble implementing all of the programs that were required by the 2014 Farm Bill. I still think that we had an awesome opportunity to share in this listening session.

Sharyland Update – Sherry Kunka

Ms. Kunka gave great update on what Sharyland Utilities has been working on. She told us about the new transmission lines and substations that are being constructed to capture all the wind power and share that with the rest of the state. Sharyland has constructed four major substations and erected 1,425 towers and installed 302 miles of conductor. All these projects

have had a major impact on the area. They have invested hundreds of millions of dollars in new infrastructure, increased tax base for counties and schools, and lastly millions of additional revenue dollars from local sales taxes.

TALL XIV Amarillo Reception at AQHA Museum

The AQHA Museum was such a great backdrop for the reception. Growing up raising Quarter Horses, I recognized so many names and it brought back so many memories. Earlier in the week Dr. Jim made a comment about everyone in agriculture, “We are only about 3 people away from knowing everyone in Ag.” Who could have imagined that would come true at the reception? I was paired with Rachel Myers as my dinner host. It was funny to know that she attended college with a friend of mine that I grew up with. Now that I have joined this TALL family I know that my group of friends will be greatly extended.

Day 4 – October 17, 2014

Caviness Beef Packers Tour – Terry and Trevor Caviness

To start the final day of the session we began with a visit to Caviness Beef Packers. At the plant we were greeted by Trevor Caviness, who gave us a quick history lesson in the plant. Trevor stated that the business was established by his grandfather in 1962 and now they are the 8th largest packer. Caviness seems to have found a niche by focusing on cull cows, bulls, and dairy cows; although they do slaughter some fed cattle. Caviness is currently processing around 1800 head/day. Some of the biggest issues that they are faced with include food safety, human handling of livestock, and labor. During our tour we learned that the biggest turnover of employees occurs in the first 60 days. I can’t imagine having to deal with that type of turnover. It really takes a great management team to have to deal with these type of issues and that is exactly what the entire Caviness family is.

Scott Seed Tour – Coby and Chad Kriegshauser

Our busy session ended with a stop at Scott Seed. At Scott Seed they focus on sorghum and wheat seeds. They have been in business since 1946 and grow and sell wholesale to others. We learned that 80% of the sorghum seed was grown in the Panhandle of Texas, that itself is quite impressive. They gave us a lesson on some of the research that they have been conducting. I was surprised to learn that they have red sorghum and a white sorghum variety. This was done for milling purposes so that they could improve the market share in the food industry. Currently only 2% of sorghum is used in the food industry, however, sorghum doesn’t have gluten therefore they are looking to capitalize on that. Coby told us that those of us in agriculture have a certain view of sorghum but on the east and west coast that perception isn’t there. I am just glad that we are able to find more markets for our producers.

Summary

I think I can best summarize this trip with the following words, “anyone can have an opinion but not everyone can have the facts”. We took a look at several different aspects of agriculture and I know that I have been guilty of having a biased opinion. Whether it’s the way we view the research Dr. Veneklasen is conducting or limited uses that we think sorghum is good for. This has only been two sessions but I am opening my eyes more every day because of this opportunity. I can wait to see what the next session has in store for us.